

Amendments to the Abstract:

Please add the following Abstract to the Specification. Applicants submit that no new matter has been added.

ABSTRACT OF THE DISCLOSURE

The present invention is directed to a system and method for delivering liquid reactants through a burner assembly to form soot used in the manufacture of glass, and in particular, optical waveguides. Due to the tendency of liquid reactants to react to form solids when exposed to water in the air, an evaporative liquid is first delivered through the burner assembly to the combustion zone. Once steady state liquid flow has been achieved in the system, the evaporative liquid is transitioned to the liquid reactant. The liquid reactant is delivered along the same path to the burner assembly, which discharges the liquid reactant into the combustion zone as an atomized liquid to form soot used in the manufacture of glass. Once the desired quantity of soot has been formed, the liquid reactant is transitioned back to the evaporative liquid while maintaining steady state flow. After the liquid reactant has cleared the system, flow of the evaporative liquid is terminated and the burner assembly flame turned off. Because the evaporative liquid is the last liquid to leave the burner assembly, no reactants are present to form solids and the burner assembly remains plug free. Preferably, the liquid reactants are housed within a dry environment to provide a reaction free area for staging the liquid reactants prior to delivery, thus facilitating and expediting multiple system runs with different liquid reactants.